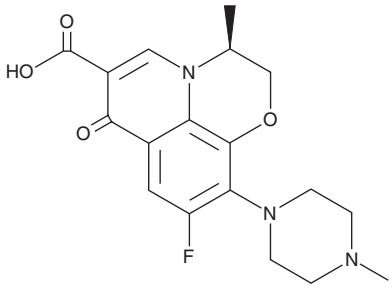
PRODUCT INFORMATION

Levofloxacin

Item No. 20382

CAS Registry No.:	100986-85-4
Formal Name:	(3S)-9-fluoro-2,3-dihydro-3-methyl-10-(4-methyl-1-piperazinyl)-7-oxo-7H-pyrido[1,2,3-de]-1,4-benzoxazine-6-carboxylic acid
Synonym:	MP-376
MF:	$C_{18}H_{20}FN_3O_4$
FW:	361.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 299 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Levofloxacin is supplied as a crystalline solid. A stock solution may be made by dissolving the levofloxacin in the solvent of choice. Levofloxacin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of levofloxacin in these solvents is approximately 1, 25, and 30 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of levofloxacin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of levofloxacin in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Levofloxacin is a fluoroquinolone antibiotic and the active stereoisomer of ofloxacin (Item No. 22891).[1] It is active against *S. aureus*, *S. epidermidis*, *B. subtilis*, *E. coli*, *P. aeruginosa*, and *K. pneumoniae* (MICs = 0.25, 0.25, 0.5, 0.03, 4, and 0.25 µg/ml, respectively).[2] Levofloxacin inhibits *S. aureus* DNA gyrase and topoisomerase IV (IC_{50}s = 8.06 and 9.81 µg/ml, respectively).[3] It eliminates infection in rat models of endocarditis caused by methicillin-sensitive or -resistant *S. aureus*.[4] Formulations containing levofloxacin have been used in the treatment of various bacterial infections.

References

1. Norrby, S.R. Levofloxacin. *Expert Opin. Pharmacother.* **1(1)**, 109-119 (1999).
2. Mohammadhosseini, N., Alipanahi, Z., Alipour, E., *et al.* Synthesis and antibacterial activity of novel levofloxacin derivatives containing a substituted thienylethyl moiety. *Daru.* **20(1)**, (2012).
3. Takei, M., Fukuda, H., Kishii, R., *et al.* Target preference of 15 quinolones against *Staphylococcus aureus*, based on antibacterial activities and target inhibition. *Antimicrob. Agents Chemother.* **45(12)**, 3544-3547 (2001).
4. Entenza, J.M., Vouillamoz, J., Glauser, M.P., *et al.* Levofloxacin versus ciprofloxacin, flucloxacillin, or vancomycin for treatment of experimental endocarditis due to methicillin-susceptible or -resistant *Staphylococcus aureus*. *Antimicrob. Agents Chemother.* **41(8)**, 1662-1667 (1997).

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